

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1.-13. (canceled).

14. (currently amended): A method of measuring the textural similarity of images, the method comprising.

automatically determining a statistical dissimilarity ($d(i, j)$) between the images (i, j);
and

automatically determining a perceptual dissimilarity ($\hat{d} |P^{(i)} - P^{(j)}|$)
between the images; and
automatically determining a textural dissimilarity ($D(i, j)$) based on the statistical dissimilarity ($d(i, j)$) and a function of the perceptual dissimilarity ($\hat{d} |P^{(i)} - P^{(j)}|$) where \hat{d} is a function whose value is dependant on a range and magnitude of the perceptual dissimilarity,

~~wherein a computation of the textual dissimilarity does not require any input from a user~~

wherein the textural dissimilarity $D(i, j)$ is determined according to the equation $D(i, j) = d(i, j) + \alpha d(i, j)^{\alpha d(P^{(i)}, P^{(j)})}$ where α is a predetermined scaling factor and \hat{d} is a function defined as:

$$\hat{d}(P^{(i)}, P^{(j)}) = \begin{cases} 0 & |P^{(i)} - P^{(j)}| \leq 1 \\ |P^{(i)} - P^{(j)}| & |P^{(i)} - P^{(j)}| > 1 \end{cases}$$

15. (previously presented): A method according to claim 14, wherein determining the perceptual dissimilarity ($|P^{(i)} - P^{(j)}|$) comprises:

determining quantitative measurements ($P^{(i)}, P^{(j)}$) of the textural regularity of the respective images (i, j); and

determining the difference between said quantitative measurements ($P^{(i)}, P^{(j)}$).

16. (previously presented): A method according to claim 14, wherein the textural dissimilarity ($D(i, j)$) is a value proportional to the statistical dissimilarity ($d(i, j)$) when the perceptual dissimilarity ($|P^{(i)} - P^{(j)}|$) is not larger than a predetermined threshold.

17. (previously presented): A method according to claim 14 wherein the degree of influence of the statistical dissimilarity on the textural dissimilarity ($D(i, j)$) is determined based on the magnitude of the perceptual dissimilarity ($|P^{(i)} - P^{(j)}|$) when the perceptual dissimilarity ($|P^{(i)} - P^{(j)}|$) is greater than a predetermined threshold.

18. (canceled).

19. (currently amended): A computer-readable recording medium storing a computer program for executing a method of measuring the textural similarity of images, wherein the method comprises:

automatically determining a statistical dissimilarity ($d(i, j)$), between the images (i, j);

and

automatically determining a perceptual dissimilarity ($|P^{(i)} - P^{(j)}|$)

between the images and

automatically determining a textural dissimilarity ($D(i, j)$) based on the statistical dissimilarity ($d(i, j)$) and a function of the perceptual dissimilarity ($\hat{d}(|P^{(i)} - P^{(j)}|)$) where \hat{d} is a function whose value is dependant on a range and magnitude of the perceptual dissimilarity

~~wherein a computation of the textual dissimilarity does not require any input from a user~~

wherein the method comprises determining said textural dissimilarity $D(i, j)$ in

accordance with the equation $D(i, j) = d(i, j) + d(i, j) \frac{\alpha^{|P^{(i)} - P^{(j)}|}}{1 + \alpha^{|P^{(i)} - P^{(j)}|}}$, where α is a predetermined

scaling factor and the function \hat{d} is defined as:

$$\hat{d}(P^{(i)}, P^{(j)}) = \begin{cases} 0 & |P^{(i)} - P^{(j)}| \leq 1 \\ |P^{(i)} - P^{(j)}| & |P^{(i)} - P^{(j)}| > 1. \end{cases}$$

20. (canceled).

21. (currently amended): An apparatus for measuring the textural similarity of images,
the apparatus comprising:

means for automatically determining a statistical dissimilarity ($d(i, j)$) between the
images (i, j); and

means for automatically determining a textural dissimilarity ($D(i, j)$) based on the
statistical dissimilarity ($d(i, j)$) and a function of the perceptual dissimilarity ($\hat{d}(|P^{(i)} - P^{(j)}|)$)

where \hat{d} is a function whose value is dependant on a range and magnitude of the perceptual
dissimilarity

~~wherein a computation of the textural dissimilarity does not require any input from a user~~
wherein the means for determining the textural dissimilarity $D(i, j)$ is configured to
determine the textural dissimilarity $D(i, j)$ according to the equation D
 $(i, j) = d(i, j) + \alpha d(i, j)^{\alpha \hat{d}(|P^{(i)}, P^{(j)})}$, where α is a predetermined scaling factor and \hat{d} is a function
defined as:

$$\hat{d}(|P^{(i)}, P^{(j)}|) = \begin{cases} 0 & |P^{(i)} - P^{(j)}| \leq 1 \\ |P^{(i)} - P^{(j)}| & |P^{(i)} - P^{(j)}| > 1 \end{cases}$$

22. (previously presented): An apparatus according to claim 21, wherein the means for determining the perceptual dissimilarity ($d(|P^{(i)} - P^{(j)}|)$) comprises:

means for determining quantitative measurements ($P^{(i)}, P^{(j)}$) of the textural regularity of the respective images (i, j); and

means for determining the difference between said quantitative measurements ($P^{(i)}, P^{(j)}$).

23. (previously presented): An apparatus according to claim 21, wherein the means for determining the textural dissimilarity ($D(i, j)$) is configured to determine the textural dissimilarity ($D(i, j)$) as a value proportional to the statistical dissimilarity ($d(i, j)$) when the perceptual dissimilarity ($|P^{(i)} - P^{(j)}|$) is not larger than a predetermined threshold.

24. (previously presented): An apparatus according to claim 21, wherein the means for determining the textural dissimilarity ($D(i, j)$) is configured to control the degree of influence of the statistical dissimilarity on the textural dissimilarity ($D(i, j)$) in dependence on the magnitude of the perceptual dissimilarity ($|P^{(i)} - P^{(j)}|$) when the perceptual dissimilarity ($|P^{(i)} - P^{(j)}|$) is greater than a predetermined threshold.

25.-29. (canceled).

30. (new): A method of measuring a similarity between texture features of a first image and a second image, the method comprising the steps of:

- (a) computing a statistical dissimilarity between the first and second images;
- (b) computing a perceptual dissimilarity between the first and second images; and
- (c) computing a dissimilarity between the texture features of the first and second images based on the statistical dissimilarity and the perceptual dissimilarity,

wherein the step (c) further comprises the steps of:

- (c-1) determining the dissimilarity between the texture features as a value based on the statistical dissimilarity when the perceptual dissimilarity is smaller than a predetermined threshold; and
- (c-2) determining the dissimilarity between the texture features based on the statistical dissimilarity, when the perceptual dissimilarity is smaller than a predetermined threshold.

31. (new): The method of claim 30, wherein the step (b) comprises the steps of:

- (b-1) computing regularity of the texture of the first and second images; and
- (b-2) computing a dissimilarity between the computed regularities of texture of the first and second images.

32. (new): The method of claim 30, wherein the step (c-1) determines the dissimilarity between the texture features as a value proportional to the statistical dissimilarity when the perceptual dissimilarity is smaller than a predetermined threshold.

33. (new): The method of claim 30, wherein the step (c-2) determines the dissimilarity between the texture features based on an exponent of the power of the statistical dissimilarity, the exponent being the perceptual dissimilarity, when the perceptual dissimilarity is smaller than a predetermined threshold.